Journal of Neonatal Surgery
ISSN(Online): 2226-0439
Vol. 14, Issue 21s (2025)
https://www.jneonatalsurg.com

OPEN ACCESS

Enhancing Maternal Knowledge to Prevent Stunting: A Systematic Review of Conventional and Video-Based Education Methods

Harni[1], Mardiana Ahmad[1]*, Yusring Sanusi Baso[2], Hasta Handayani Idrus[3,4]

[1]Master of Midwifery Study Program, Graduate School of Hasanuddin University, Makassar Indonesia

[2]Learning Media Center, Learning Resources and E-Learning, Hasanuddin University, Indonesia

[3]Department of Biomedical Sciences, Postgraduate School, Hasanuddin University (UNHAS), Makassar, Indonesia

[4]Center for Biomedical Research, Research Organization for Health, National Research and Innovation Agency (BRIN), Jakarta, Indonesia

***Correspondence Author:**

Mardiana Ahmad,

Email ID: **mardianaahmad@pasca.unhas.ac.id**

Cite this paper as: Harni, Mardiana Ahmad, Yusring Sanusi Baso, Hasta Handayani Idrus, (2025). Enhancing Maternal Knowledge to Prevent Stunting: A Systematic Review of Conventional and Video-Based Education Methods. *Journal of Neonatal Surgery*, 14 (21s), 880-895.

ABSTRACT

Background: Stunting remains a major public health problem with long-term consequences on child growth and development. Maternal education plays an important role in stunting prevention efforts. Various educational methods, including conventional approaches and video-based interventions, have improved maternal knowledge.

Objective: To evaluate the effectiveness of conventional and video-based educational interventions in improving mothers' knowledge about stunting. Methods: A systematic review was conducted by searching relevant databases. A total of 15 eligible studies were included and analyzed based on study design, intervention type, population, knowledge assessment tools, and key findings.

Methodological quality was assessed using the JBI Critical Appraisal Tool.

Results: All studies reported an increase in maternal knowledge after the educational intervention. Video-based education showed more significant and consistent results compared to conventional methods. However, intervention design, media, and duration variations contributed to the heterogeneity of findings.

Conclusion: Video-based education is an effective and promising approach to improve mothers' knowledge about stunting. Further research using a robust experimental design and long-term evaluation is recommended to assess its impact on behavior change in stunting prevention.

Keyword: *stunting, maternal education, educational video, knowledge, systematic review*

1. BACKGROUND

Stunting is a worldwide health problem that impacts the development and growth of children. (1–3). The World Health Organisation's (WHO) latest data reports that more than 140 million children under five will be stunted by 2020, with a global prevalence of 22.9%. (4–6). the second highest stunting rate in Southeast Asia shows how urgent this problem is. The long-term impact of stunting is not only limited to stunted physical growth, but also to cognitive development and reduced future economic production. (7–10).

The prevalence of stunting in Indonesia has decreased from 24.4% in 2021 to 21.6% in 2022. Despite the decrease in the percentage of cases, Indonesia still has major challenges in order to achieve the national targets in accordance with the National Medium-Term Development Plan (RPJMN) 2020-2024 and the Sustainable Development Goals (SDGs) (1,11–13). Mothers' ignorance about child care and nutrition is one of the biggest obstacles to stunting prevention(14–18). Research consistently reports that improving maternal knowledge is key to stunting prevention and emphasises the need for effective educational interventions to support child health(19–21).

The mother plays a very important role in the health and nutrition of the child. To ensure that children receive adequate

nutrition at this crucial stage of their development, mothers' knowledge of stunting is essential(22–24). This is one of the most cost-effective preventive measures in reducing the incidence of stunting. By understanding the definition of stunting, its effects and prevention, mothers can provide good nutrition for their children (25,26).

Enhancing mothers' knowledge about stunting can be done through the provision of health education both conventionally such as face-to-face (teaching) and counselling (counselling) and modernly, namely videp-based or digital(27–29). Enhancing mothers' knowledge about stunting can be done through the provision of health education both conventionally such as face-to-face (teaching) and counselling (counselling) and modernly, namely videp-based or digital (30–36). Result has been shown that the use of audiovisual techniques can help increase the understanding of families with children under five about stunting (37,38). The method used in providing information has a significant effect on the effectiveness of the education programme.

Despite several studies on health education and stunting prevention, there is still a gap in the literature comparing the comparative effectiveness of conventional approaches and video-based interventions. To date, there are no systematic studies that clearly compare the two approaches in order to improve mothers' understanding of stunting. Therefore, it is imperative to conduct a systematic review to synthesise the available scientific data and provide recommendations based on the findings.

The aim of this review is to explore and compare the effectiveness of conventional education and video-based interventions in improving mothers' knowledge about stunting. By conducting this systematic review, we hope to provide new insights and recommendations for the development of more effective health education strategies to prevent stunting among mothers

2. METHODS

a. Research Design

This review aimed to assess the effectiveness of conventional and video-based techniques in improving mothers' knowledge on stunting prevention. The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) standard.

b. Eligibility criteria

The PICOS framework was used to determine the inclusion and exclusion criteria.

1.	Population(P)	: Pregnant mums or those with children under the age of five
2.	Intervention(I)	: Educational interventions, both conventional and modern
3.	Compare(C)	: Conventional techniques vs. video-based educational approach
4.	Out put(O)	: Improved maternal understanding of stunting
5.	Study design(S)	: Quantitative research (RCT, quasi-experimental, cohort)

c. Inclusion and Exclusion Ctriteria

Inclusion Criteria	Exclusion Criteria
Research published in English	Editorials, reviews and opinion articles
Publication Year 2019-2025	Publication beyond 2019-2025
Peer-reviewed journal	Not peer-reviewed
Focus on maternal education on stunting	Research without a focus on mothers' knowledge of stunting
Measurable maternal knowledge outcomes	Research not written in English
Detailed intervention methods (conventional and video-based)	

d. Search Strategy

- Electronic searches were conducted using four databases: Google Scholar, PubMed, and ScienceDirect,.
- Searches were conducted between January 2019 and March 2025 using the following keyword combinations:

'maternal knowledge' AND "stunting" AND ('health education' OR "conventional education" OR "video education" OR "digital media"). Boolean operators and Medical Subject Headings (MeSH) were used where appropriate.

e. Selection process study

All identified articles are reviewed jointly between researchers and supervisors based on title and abstract. Full-text screening was conducted for studies that met the inclusion criteria. Any discrepancies were resolved through discussion or consultation. The study selection process is illustrated using the PRISMA flow chart. It can be seen in figure 1.

f. Data Extraction

The standardized data extraction form was used to collect key information from each included study: title, authors, year of publication, country, study design, sample, type of intervention, tools to measure knowledge, and main outcomes. This can be seen in table 1. Data extraction.

g. Quality Assessment

The methodological quality of the included studies was assessed using the Joanna Briggs Institute (JBI) Critical Appraisal Tool, based on study type. Each study was classified as high, medium, or low quality based on the assessment criteria. Results can be seen in table 2.

h. Synthesis of data

Because of the heterogeneity in study designs and outcome measures, a narrative synthesis approach was used. Studies were grouped and analysed based on the type of educational intervention (conventional vs. video-based) and the level of improvement in mothers' knowledge of stunting.

3. RESULTS

The results of article searches on databases such as Google Scholar, PubMed, and ScienceDirect can be seen in Figure 1 below;

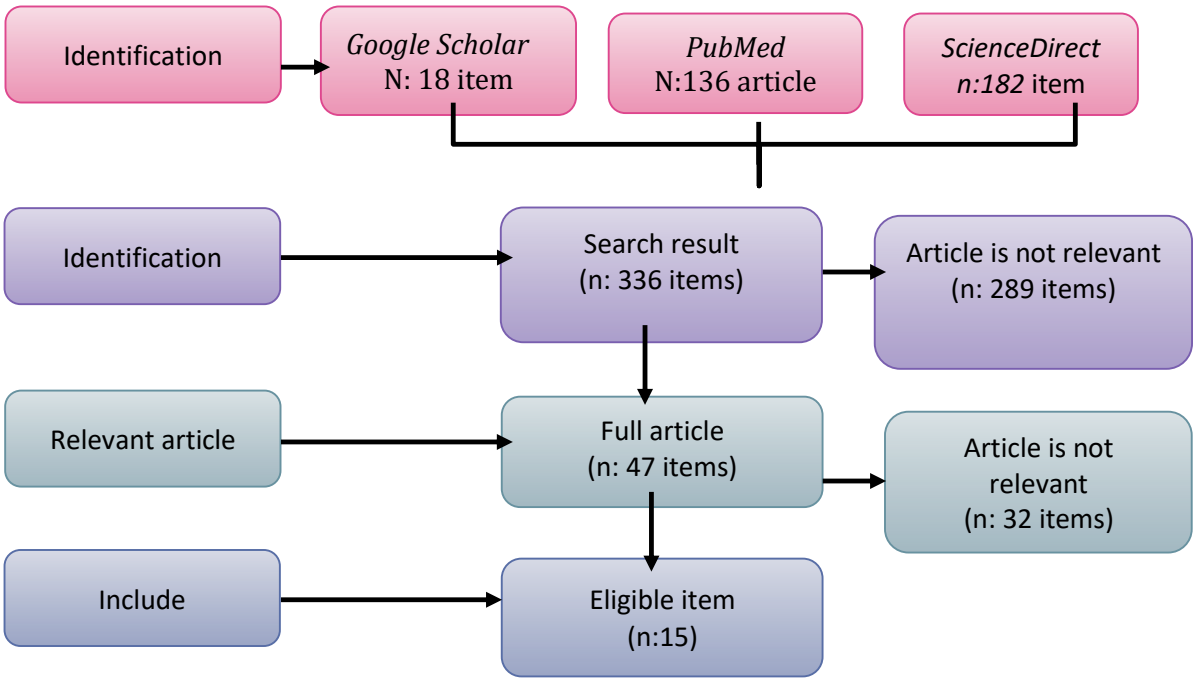

Figure 1: PRISMA Method Article Search Method

Table 1. Extraction of Research Data

No.	Title	Author/ Years	Country	Study design	Sample	Type of intervention	Tools to measure knowledge	Results
	Effect of video-assisted educational intervention on improving knowledge, attitude and practice among mothers of children below five years on malnutrition: A systematic review	(39)	Manipal Academy of Higher Education	a systematic review analysing randomised controlled trials (RCTs)	Mothers with children under 5 years of age.	Video-based education provided to mothers, with a comparison group, to evaluate knowledge, attitudes and practices (KAP) related to malnutrition.	Risk of bias assessment was conducted using the Cochrane risk of bias assessment tool.	Of the 11,434 articles screened, seven The RCTs met the inclusion criteria. There were statistically significant improvements in mothers' knowledge (n = 2), attitudes (n = 1), and practices (n = 6) regarding feeding practices after the video-based educational intervention.
	Maternal education is essential but may not be sufficient to prevent child stunting: a commentary	(41)	Lacks specific information	A commentary analysing various studies on the role of maternal education in preventing child stunting	Lacks specific information	Lacks specific information	Lacks specific information	This article discusses and compares findings from previous studies to highlight that while maternal education is important, it may not

								be sufficient to prevent stunting without additional interventions such as improved economic access to nutritious food, health services and sanitation.
	Online educational intervention: Improving maternal knowledge and attitudes in providing developmental stimulation for stunting toddler	(42)	Indonesia	Quasi Pre and post test of intervention with control groups	96 mothers with stunted toddlers aged 2-5 years; 46 in the treatment group and 46 in the control group	Education on online growth stimulation using WhatsApp groups, e-modules, and video materials for 12 meetings	Questionnaires that have been tested for validity and reliability	Significant improvement in mothers' knowledge scores in the treatment group compared to the control group; no significant difference in attitudes between the two groups.
	The influence of stunting education using video playback and demonstration methods on the knowledge of mothers with stunted children	(43)	Indonesia	Quasi-experiment with time-series	34 mothers with stunted toddlers	Education on stunting using demonstration methods with simple food ingredients and screening of illustrative videos	Quesioner pre-test post-test	Maternal knowledge score increased significantly from an average of 5.22 ± 1.65 in the pre-test to 7.58 ± 1.76 in the post-test after the intervention.
	Maternal education and its	(44)	Various countrie	Systematic reviews and	This study analysed data from multiple	There was no direct interventi	Not mentioned specifically	The higher level of maternal

	influence on child growth and nutritional status during the first two years of life: a systematic review and meta-analysis		s	meta-analyses	studies involving mothers and children aged 0-24 months.	on; focus on the relationship between mother's education level and child growth and nutritional status		education is positively associated with better nutritional status and growth of children during the first two years of life.
	The Effect Of Health Education Video Media On Pregnant Women's Prevention Knowledge Stunting In The Work Area Of Regional Public Service Agency Public Service Agency (BLUD) Selajambe Kuningan Regency Health Center In 2023	(45)	Indonesia	Pre-experimental with One Group Pretest-Posttest model	Pregnant Woman	Health education uses video media	Structured questionnaire	Before intervention, 39 out of 48 respondents (81.3%) had good knowledge. After being given education through videos, the number of respondents who had good knowledge increased to 42 people (87.5%).
	Stunting prevention efforts through knowledge interventions of toddler mothers using booklets and video	(46)	Indonesia	Quasi-experimental with pre-test and post-test with control group design	60 mothers with children under five	A booklet and video on stunting and prevention	A structured questionnaire	Although both methods were effective in improving mothers' knowledge about stunting, the video was superior to the booklet.

	Role of Maternal in Preventing Stunting: a Systematic Review	(47)	Various countries	Systematic review	Studies involving mothers and children	Focusing on the role of mothers in stunting prevention during the golden phase of child growth	Not mentioned specifically	Mothers play an important role in stunting prevention through proper nutrition, early breastfeeding initiation, exclusive breastfeeding, and complementary feeding.
	The effect of mothers' nutritional education and knowledge on children's nutritional status: a systematic review	(48)	Malnutrition is more common in developing countries.	▪ Based on literature from four major databases: Embase, ProQuest, Pub Med, and Google Scholar. ▪ The analysed studies included various research designs such as experiment	The review study involved mothers of children under five with a focus on the impact of nutrition education on children's nutritional status.	Nutrition education for mothers through various methods, including Booklets, Guide, Leaflets, Internet technology applications, Brainstorming and demonstrations	• Maternal knowledge was measured using a structured questionnaire. • Children's nutritional status was measured through indicators such as birth weight, body mass index (BMI), and other anthropometrics.	Different educational methods such as booklets, demonstrations, and internet technology have been shown to be effective in improving mothers' knowledge and children's nutritional status.

				s and quasi-experiments.				
	Maternal nutrition counselling is associated with reduced stunting prevalence and improved feeding practices in early childhood: a post-program comparison study	(49)	Not specific mention, but the research covers areas involved in public health intervention programmes	Post-programme comparative study, using data from a national cross-sectional survey.	3009 mother-child pairs, divided into two groups: • Intervention group (n = 1557) who received a nutrition counselling package. • Control group (n = 1452) who received only the basic health education package.	Nutritional counselling for mothers	A questionnaire to measure feeding practices and stunting prevalence.	Nutrition counselling for mothers can significantly reduce the prevalence of stunting and improve optimal feeding practices in children under five years old.

	Audiovisual Media Increases Stunting Prevention Knowledge Among Pregnant Women in The Working Area of Wani Health Center: Pretest, Posttest 1 and Posttest 2	(50)	Indonesia	Pre-experimental with one-group pretest-posttest design	43 pregnant women in the working area of Puskesmas Wani	Health education using animated audiovisual media with a duration of 8 minutes 12 seconds	Questionnaire with 21 statements, conducted pretest, posttest 1, and posttest 2	A significant increase in knowledge in stunting prevention knowledge in pregnant women, with an average pretest score of 52.18, posttest 1 71.72, and posttest 2 90.86.
	Effectiveness of Nutrition Education on Stunting Prevention Behavior Using Video Media	(51)	Indonesia	Quasi-experimental with pretest-posttest and control group	100 mothers with children under five (50 intervention, 50 control)	Nutrition education through video media and interactive discussions	Structured questionnaires that have been tested for validity and reliability	A significant increase in knowledge score from a mean of 58.4 to 85.6 in the intervention group ($p < 0.001$), demonstrating the effectiveness of video media compared to conventional methods such as leaflets.
	The Effectiveness of Nutrition Education about Stunting UsingVideo Media on The Knowledge and Attitudes	(52)	Indonesia	Quasi-experimental with pre-post test and control group	36 mothers of children under five at Teluk Lingga Health Centre, East Kalimantan	Educational video on stunting versus. Educational Leaflet		Video was more effective in improving knowledge (mean score increased from 7.39 to 19.72) and attitude

	of Mothers of Toddlers							than leaflet ($p < 0.001$).
	Maternal knowledge on nutritional-focused nurturing care and associated factors among women with stunted children aged 6-23 months in Yogyakarta, Indonesia: A cross-sectional study	(53)	Indonesia	Cross-sectional	73 mothers of stunted toddlers in Kulon Progo, Yogyakarta	Measurement of knowledge about nutritional care using a standardised questionnaire	Validation questionnaire of four domains (responsive caregiving, safety, early learning, caregiver well-being)	Maternal education level and exposure to information related to nutritional care were significantly associated with the level of knowledge
	The Connection between Low Birth Weight and Knowledge Level Regarding the Incidence of Stunted in Kedunglumpang Village and Dukuh Mojo Village	(54)	Indonesia	Cross-sectional With correlation analysis	Mothers of children under five in Kapuas Hulu District, West Kalimantan	Nutrition counselling by midwives after the birth of a low birth weight baby (LBW)	Structured questionnaire related to risk factors for stunting	There is a significant relationship between the level of maternal knowledge and the incidence of stunting in early childhood ($r = 0.731$).

Table 2. Methodological Quality of Studies based on JBI Assessment

Yes	Title	Study design	JBI Tools	Suspension (%)	Quality
1	Effect of video-assisted educational intervention on	Systematic Review	JBI Checklist for	9/11 (82%)	High

	improving knowledge, attitude and practice among mothers of children below five years on malnutrition: A systematic review		Systematic Reviews		
2	Maternal education is essential but may not be sufficient to prevent child stunting: a commentary	Editorial/Commentary	-	-	No. rated
3	Online educational intervention: Improving maternal knowledge and attitudes in providing developmental stimulation for stunting toddler	Quasi-experimental	JBI Checklist for Quasi-Experimental Studies	8/9 (89%)	High
4	The influence of stunting education using video playback and demonstration methods on the knowledge of mothers with stunted children	Quasi-experimental	JBI Checklist for Quasi-Experimental Studies	7/10	Moderate
5	Maternal education and its influence on child growth and nutritional status during the first two years of life: a systematic review and meta-analysis	Meta-analysis	JBI Checklist for Systematic Reviews	9/10	High
6	The Effect Of Health Education Video Media On Pregnant Women's Prevention Knowledge Stunting In The Work Area Of Regional Public Service Agency Public Service Agency (BLUD) Selajambe Kuningan Regency Health Center In 2023	Quasi-experimental	JBI Checklist for Quasi-Experimental Studies	6/10	Moderate
7	Stunting prevention efforts through knowledge interventions of toddler mothers using booklets and video	Quasi-experimental	JBI Checklist for Quasi-Experimental Studies	7/10	Moderate
8	Role of Maternal in Preventing Stunting: a Systematic Review	Systematic Review	JBI Checklist for Systematic Reviews	8/10	High
9	The effect of mothers' nutritional education and knowledge on children's nutritional status: a systematic review	Systematic Review	JBI Checklist for Systematic Reviews	8/10	High
10	Maternal nutrition counselling is associated with reduced stunting prevalence and improved feeding practices in early childhood: a post-program comparison study	A national cross-sectional survey.	JBI Checklist for Analytical Cross-Sectional Studies	6/10	Moderate
11	Audiovisual Media Increases Stunting Prevention Knowledge Among Pregnant Women in The Working Area of Wani Health Center: Pretest, Posttest 1 and	Quasi-experimental	JBI Checklist for Quasi-Experimental Studies	7/10	Moderate

	Posttest 2				
12	Effectiveness of Nutrition Education on Stunting Prevention Behavior Using Video Media	Quasi-experimental	JBI Checklist for Quasi-Experimental Studies	7/10	Moderate
13	The Effectiveness of Nutrition Education about Stunting UsingVideo Media on The Knowledge and Attitudes of Mothers of Toddlers	Quasi-experimental	JBI Checklist for Quasi-Experimental Studies	7/10	Moderate
14	Maternal knowledge on nutritional-focused nurturing care and associated factors among women with stunted children aged 6-23 months in Yogyakarta, Indonesia: A cross-sectional study	Cross-sectional	JBI Checklist for Analytical Cross-Sectional Studies	5/10	Lower
15	The Connection between Low Birth Weight and Knowledge Level Regarding the Incidence of Stunted in Kedunglumpang Village and Dukuh Mojo Village	Cross-sectional	JBI Checklist for Analytical Cross-Sectional Studies	5/10	Lower

Source: https://jbi.global/critical-appraisal-tools

Table 2 shows the results of the methodological quality assessment conducted with the Joanna Briggs Institute (JBI) tool. Of the 15 studies assessed, six were of high quality (40%), eight were of medium quality (53%), and two were of low quality (13%). This indicates that most of the studies had good methodology and fulfilled most of the JBI assessment criteria.

4. DISCUSSION

This systematic review looks at how effective conventional and video-based education methods are for improving mothers' knowledge about stunting. The diversity of designs, interventions and measurement tools used is shown in the 15 studies analysed. The studies were mainly conducted in Indonesia, with pregnant women and mothers of children under five years old as subjects. Most studies used quasi-experimental or pre-experimental designs and pre-post-test methods. Conventional education, such as face-to-face training, leaflets, and books, and video-based education, either animations or stories, were used along with digital media such as WhatsApp. The intervention process ranged from one session to several weeks.

Overall, the results showed that both conventional and video-based educational approaches had a positive impact on improving mothers' knowledge about stunting. However, video-based interventions often show more significant results in improving knowledge scores. In line with research(55) which reported that there was an increase in the average knowledge of mothers after being given education using animated video media with a pre-test value of 70.24 and a post-test of 79.04. Wilcoxon signed rank test results p-value < 0.001 ($p \leq 0.05$). This is due to the fact that videos have advantages in terms of visualisation, which attracts attention, facilitates understanding of complex material, interactive and accessibility that allows mothers to learn at any time (56,57).

Based on the assessment results using the Joanna Briggs Institute (JBI) Critical Appraisal Tools, most of the articles reviewed in this study showed moderate to good methodological quality(58,59). This is indicated by the fulfilment of most of the JBI assessment criteria, such as the suitability of the research design and research questions, clarity of intervention objectives, and consistency between the methods and results presented.

However, there are methodological weaknesses in some studies that need to be critically considered. Some articles did not provide detailed information on the validity and reliability of the measurement tools used to assess maternal knowledge(60). In fact, validity and reliability are important components in ensuring that measuring instruments can accurately and consistently capture changes that occur. The absence of this information creates the potential for measurement bias, which can reduce confidence in the findings. In addition, some studies did not clearly explain the randomisation process or blinding technique, especially in experimental or quasi-experimental designs (61). These two aspects play an important role in minimising the risk of selection bias and observer perception bias.

The implication of this finding is that not all studies have the same strength of evidence. Therefore, in drawing conclusions

regarding the effectiveness of conventional education and video-based education in improving mothers' knowledge of stunting, researchers need to selectively consider the methodological quality of each study(62). In addition to highlighting methodological quality, this review also found considerable heterogeneity among the analysed studies. This heterogeneity includes various aspects, such as the form and content of the intervention design, the educational media used, the duration of the intervention, and the demographic characteristics of the participants (63).

Differences in participant characteristics, such as education level, residential location (urban vs. rural), and socioeconomic status, contributed to the mixed results. Mothers with higher levels of education tend to be more receptive to and understand information delivered through educational media (64). In terms of practical implications, the use of video-based educational media offers several significant advantages over conventional approaches. Educational videos are considered more flexible because they can be accessed independently by mothers anytime and anywhere(65–67). In addition, the delivery of information through audiovisual media allows for better absorption of the material as it involves visual and audio elements simultaneously. In developing countries, including Indonesia, which still face high stunting rates and unequal distribution of health services, the use of educational videos can be one of the innovative and applicable intervention strategies

In developing countries, including Indonesia, which still face high stunting rates and unequal distribution of health services, the use of educational videos can be one of the innovative and applicable intervention strategies(68).

5. CONCLUSION

This review shows that both video-based and conventional education are effective in improving mothers' knowledge about stunting. Due to its advantages in terms of visualisation and ease of access, video-based health education tends to produce better results. Despite differences in methodological quality and intervention design between studies, most showed significant improvements in knowledge.

For regions with limited health worker resources, video-based education can be an effective approach. However, to strengthen the evidence, further research is needed involving more rigorous experimental designs, use of standardised instruments and evaluation of the long-term behavioural impact of stunting prevention

REFERENCES

[1] Mediani HS. Predictors of Stunting Among Children Under Five Year of Age in Indonesia: A Scoping Review. Glob J Health Sci. 2020; 12(8).

[2] Sihotang WY, Hulu VT, Samosir FJ, Pane PY, Hartono H, Manalu P, et al. Determinants of stunting in children under five: a scoping review. J Nutrition Indonesia (The Indonesian J Nutr. 2023; 12(1).

[3] Andika F. The Analysis of Stunting Incidence Factors in Toddlers Aged 23-59 Months in the Work Area of the Padang Tiji Community Health Center, Pidie Regency, 2020. Int J Sci Technol Manag. 2021; 2(3).

[4] Kusumajaya AAN, Mubasyiroh R, Sudikno S, Nainggolan O, Nursanyoto H, Sutiari NK, et al. Sociodemographic and Healthcare Factors Associated with Stunting in Children Aged 6–59 Months in the Urban Area of Bali Province, Indonesia 2018. Nutrients. 2023; 15(2).

[5] Titaley CR, Ariawan I, Hapsari D, Muasyaroh A, Dibley MJ. Determinants of the stunting of children under two years old in Indonesia: A multilevel analysis of the 2013 Indonesia basic health survey. Nutrients. 2019; 11(5).

[6] Batool M, Saleem J, Zakar R, Butt MS, Iqbal S, Haider S, et al. Relationship of stunting with water, sanitation, and hygiene (WASH) practices among children under the age of five: a cross-sectional study in Southern Punjab, Pakistan. BMC Public Health. 2023; 23(1).

[7] Suparji, Wahito Nugroho HS, Surtinah N. Handling Stunting in Indonesia: Challenges, Progress and Recommendations. Vol. 15, National Journal of Community Medicine. 2024.

[8] Akbar MT, Mahardhika DW, Sihaloho ED. Stunting in Eastern Indonesia: Determinants and Solution from Indonesian Family Life Survey. J Cita Ekon. 2021; 15(1).

[9] Rao N, Richards B, Lau C, Weber AM, Sun J, Darmstadt GL, et al. Associations Among Early Stimulation, Stunting, and Child Development in Four Countries in the East Asia–Pacific. Int J Early Childhood. 2020; 52(2).

[10] Rambe NL, Hutabarat EN, Hafifah R. The Effect of Stunting on Children's Cognitive Development : Systematic Review. Contag Sci Period J Public Heal Coast Heal. 2023; 5(2).

[11] Laksono AD, Izza N, Trisnani T, Paramita A, Sholikhah HH, Andarwati P, et al. Determination of appropriate policy targets to reduce the prevalence of stunting in children under five years of age in urban-poor communities in Indonesia: a secondary data analysis of the 2022 Indonesian national nutritional status survey. BMJ Open. 2024; 14(9):e089531.

[12] Siswati T, Iskandar S, Pramestuti N, Raharjo J, Rubaya AK, Wiratama BS. Drivers of Stunting Reduction in Yogyakarta, Indonesia: A Case Study. Int J Environ Res Public Health. 2022; 19(24).

[13] Siramaneerat I, Astutik E, Agushybana F, Bhumkittipich P, Lamprom W. Examining determinants of stunting in Urban and Rural Indonesian: a multilevel analysis using the population-based Indonesian family life survey (IFLS). BMC Public Health. 2024; 24(1):1–13.

[14] Siti Saidah Nasution, Febrina Oktavinola, Hariati. MOTHER'S KNOWLEDGE AND ATTITUDE ABOUT STUNTING OF CHILDREN IN NAMORAMBE DISTRIC. ABDIMAS Talent J Pengabdi Kpd Masy. 2019; 4(1).

[15] Yunitasari E, Rahayu M, Kurnia ID. The effects of lecture, brainstorming, demonstration (CBD) to mother's knowledge, attitude, and behavior about stunting prevention on toddler. Syst Rev Pharm. 2020; 11(6).

[16] Rahmah AA, Yani DI, Eriyani T, Rahayuwati L. Correlation Mother's Eduaction and Received Stunting Information with Mother's Stunting Knowledge. J Nurs Care. 2023; 6(1).

[17] Sari DN. Relationship between Utilization of the MCH Handbook and Mother's Knowledge and Attitudes in Early Detection of Stunting. Int J Sci Soc. 2023; 5(2).

[18] Zahrah SN, Damayanti NA. The relationship between religious leaders and the knowledge of mothers in reducing stunting: a literature review. Vol. 14, Journal of Public Health in Africa. 2023.

[19] Yunitasari E, Pradanie R, Arifin H, Fajrianti D, Lee BO. Determinants of stunting prevention among mothers with children aged 6–24 months. Open Access Maced J Med Sci. 2021;9.

[20] Dwi Ananta S, Krisnana I, Tri Lestari W. The Relationship Between Maternal Knowledge Level And Feeding Practices With Dietary Patterns In Stunted Children. J EduHealth. 2023; 14(3).

[21] Yuliana P, Astuti Y, Leny Wulandari RC. LITERATURE REVIEW: EFFECTIVENESS OF HEALTH PROMOTION MEDIA ON THE LEVEL OF MATERNAL KNOWLEDGE ABOUT STUNTING. I am a member of the J.D. Faculty of Education. 2023; 7(2).

[22] Salim A, Muslimin I, Rahim R, Atalla SM, Chen HWJ, Kumar KA. Analysis of mother's knowledge level in special location areas for stunting prevention. Int J Health Sci (Qassim). 2023; 7(S1).

[23] Emaniar AE, Octafania NS, Buchori AM, Anggraeni DA, Widyawati RW, Mawardhani AY, et al. INCREASING MATERNAL KNOWLEDGE IN PREVENTING STUNTING THROUGH COMMUNITY-BASED NUTRITION EDUCATION. Adv Sustain Sci Eng Technol. 2023; 5(2).

[24] Eshete Tadesse S, Chane Mekonnen T, Adane M. Priorities for intervention of childhood stunting in northeastern Ethiopia: A matched case-control study. PLoS One. 2020; 15(9).

[25] Sirajuddin, Sirajuddin S, Razak A, Ansariadi, Thaha RM, Sudargo T. The intervention of maternal nutrition literacy has the potential to prevent childhood stunting: Randomized control trials. J Public Health Res. 2021; 10(2).

[26] Kadir S. The Role of Mother Knowledge and Parenting Culture in Determining the Toddler Nutrition Status. J Heal Educ. 2019; 4(2).

[27] Novianti D, Setiawan H, Sukmawati I. Maternal Knowledge Regarding Stunting in Toddlers : An Overview. Gen Nurs Sci J [Internet]. 2024; 05(02):269–78. Available from: https://genius.inspira.or.id/index.php/gj/article/view/430

[28] Rahangmetan MA, Yulaikhah L, Astuti EP, Rahmawati D. Impact of health education on stunting knowledge among mothers with children aged 1-5 years. Malahayati Int J Nurs Heal Sci [Internet]. 2024; 07(7):787–92. Available from: file:///Users/nuraliyaarsyad/Downloads/02.+377+Maria+ok.pdf

[29] Nurcahyani L, Widiyastuti D, Estuti W, Iman AT, Fitrianingsih Y, Hafid F. Design of Stunting Prevention Education Media Package Based on Technology and Local Wisdom. Amerta Nutr. 2024; 8(2SP):9–14.

[30] Hendryanti DN, Andriani C, Indriani S, Gunawan L, Sibero MT. Dietary Diversity, Stunting, and the Impact of an Education Program on Parents' Knowledge and Attitudes in West Sumba, Indonesia. J Nutrition and Food. 2023; 18(2).

[31] Nugroho E, Wanti PA, Suci CW, Raharjo BB, Najib. Social Determinants of Stunting in Indonesia. Pack. 2023; 18(4).

[32] Siswati T, Waris L, Paramashanti BA, Kusnanto H, Susilo J. Gross domestic product and geographic area as social determinants of child stunting and severe stunting in Indonesia: A multilevel analysis. J Nutrition and Diet Indonesia (Indonesian J Nutr Diet. 2022; 10(3).

[33] Raodah, Sitti Nur Djannah, Lina Hadayani. The Effectiveness of Booklet Educational Media on the Knowledge and Attitudes of Stunting Mothers Under Five in Aceh. Publ Media Promotion of Indonesian Health. 2023; 6(5).

[34] Eva Purwita, Budiarti Emas Nanda, Salmiani Abdul Manaf, Nurlaili Ramli. The Effectiveness of Educational Media Leaflets and Stickers on Feeding Patterns in Stunted Children. NASUWAKES J Health Ilm. 2023; 16(2).

[35] Indanah I, Wanda D, Nurhaeni N. Empowerment of Parents with Stunting Children. J Aisyah J Health Sciences. 2022; 7(4).

[36] Sari FS, Duana M. The Effectiveness of Explanation Methods of Lectures and Poster Media on Stunting Knowledge in Eligible Woman in Aceh Jaya Regency. J-Kesmas J Fak Kesehat Masy (The Indones J Public Heal. 2022; 9(2).

[37] Fasanghari M, Keramat A. Investigating the effect of educational interventions on maternal competence: A systematic review and meta-analysis. Vol. 12, Journal of Education and Health Promotion. 2023.

[38] Mohammed Ali Shahba E, Soliman Bahgat R, Hassan Bayoumi M, Abd El-Ghany Mohammed R. Effect of Educational Program on Mothers' Knowledge and Practices regarding Care for their Children with Febrile Convulsions. J Nurs Sci Benha Univ. 2022; 3(2).

[39] Pujari S, Rashid M, Thunga G, Shetty RS, Mundkur SC, Devi ES, et al. Effect of video-assisted educational intervention on improving knowledge, attitude and practice among mothers of children below five years on malnutrition: A systematic review. Public Health [Internet]. 2025; 242(August 2024):28–36. Available from: https://doi.org/10.1016/j.puhe.2025.02.031

[40] Wahyurin IS, Aqmarina AN, Rahmah HA, Hasanah AU, Silaen CNB. The effect of stunting education using brainstorming and audiovisual methods on the knowledge of mothers with stunting children. Indonesian Nutrition Science. 2019; 2(2).

[41] Delisle H. Maternal education is essential but may not be sufficient to prevent child stunting: A commentary. Vol. 24, Public Health Nutrition. 2021.

[42] Faridah F, Anies A, Kartasurya MI, Widjanarko B. Online educational intervention: Improving maternal knowledge and attitudes in providing developmental stimulation for stunting toddlers. Narra J. 2024; 4(1).

[43] Siokal B, Wahyuningsih, Nurhayati, Mappanganro A, Sudarman, Asfar A. The influence of stunting education using video playback and demonstration methods on the knowledge of mothers with stunted children. Sci. J. 2025; 7(1):7–11.

[44] Rezaeizadeh G, Mansournia MA, Keshtkar A, Farahani Z, Zarepour F, Sharafkhah M, et al. Maternal education and its influence on child growth and nutritional status during the first two years of life: a systematic review and meta-analysis. eClinicalMedicine [Internet]. 2024; 71(April):102574. Available from: https://doi.org/10.1016/j.eclinm.2024.102574

[45] Mulyani N, Kurnia H. The Effect Of Health Education Video Media On Pregnant Women's Prevention Knowledg Stunting In The Work Area Of Regional Public Service Agency Public Service Agency (BLUD) Selajambe Kuningan Regency Health Center In 2023. 2023; 2023(5):58–64.

[46] Noviawati D, Arum S, Khuzaiyah S. Stunting prevention efforts through knowledge interventions of toddler mothers using booklets and video. A: Maternal and child health. 2022; 16(1):64–74.

[47] Saleh A, Syahrul S, Hadju V, Andriani I, Restika I. Role of Maternal in Preventing Stunting: a Systematic Review. Vol. 35, Gaceta Sanitaria. 2021. pp. S576–82.

[48] Prasetyo YB, Permatasari P, Susanti HD. The effect of mothers' nutritional education and knowledge on children's nutritional status: a systematic review. Vol. 17, International Journal of Child Care and Education Policy. 2023.

[49] Mistry SK, Hossain MB, Arora A. Maternal nutrition counselling is associated with reduced stunting prevalence and improved feeding practices in early childhood: A post-program comparison study. Nutr J. 2019; 18(1).

[50] Taqwin T, Kaparang MJ, Wahyuningtias F, Ramadhan K. Audiovisual Media Increases Stunting Prevention Knowledge Among Pregnant Women in The Working Area of Wani Health Center: Pretest, Posttest 1 and Posttest 2. Poltekita J Health Sciences. 2022; 16(4).

[51] Rahmadani RA, Setiawati A, Aris I, Lontaan A. Effectiveness of nutrition education on stunting prevention behavior in mothers under five. J Health Science Education. 2025; 3(1):1–8.

[52] Burah N, Reski S, Wahyunigrum DR, Cahyono J. The Effectiveness of Nutrition Education about Stunting Using Video Media on The Knowledge and Attitudes of Mothers of Toddlers. J Heal Nutr Res. 2024; 3(1):74–

82.

[53] Haryanti F, Hartini S, Akhmadi, Andarwati F, Risnawati H, Pratiwi AN, et al. Maternal knowledge on nutritional-focused nurturing care and associated factors among women with stunted children aged 6-23 months in Yogyakarta, Indonesia: A cross-sectional study. Scott, J., 2024; 10(4):472–80.

[54] Nisa FK. The Connection between Low Birth Weight and Knowledge Level Regarding the Incidence of Stunted in Kedunglumpang Village and Dukuh Mojo Village. Prof. Heal J. 2025; 7(1):211–8.

[55] Ningrum D, Setiadi DK, Sejati AP, Fauziyah RN. THE EFFECT OF ANIMATION VIDEO-BASED EDUCATION ON MOTHERS' KNOWLEDGE OF ANIMAL PROTEINS TO PREVENT STUNTING UNDER FIVE. J Ris Health POLTEKKES MINISTRY OF HEALTH BANDUNG. 2024; 16(1).

[56] Amraini N, Zainal S, Darmawan S, Nani Hasanuddin S, Pioneer of Independence VIII J, Makassar K. The Effect of Stunting Education Using Audiovisual Methods on Mothers' Knowledge in Sanglepongan Village, Curio District, Enrekang Regency. JIMPK J Ilm Mhs Nursing Researcher. 2024; 4:238–43.

[57] Hidayah N, Limansyah D. The Effectiveness of Educational Videos "Stunting Care" in Improving the Knowledge and Skills of Health Cadres. Citra Delima Sci J Citra Int Inst. 2025; 8(2):132–42.

[58] JBI Manual for Evidence Synthesis. JBI Manual for Evidence Synthesis. 2020.

[59] Aromataris, E. & Munn Z. JBI Manual for Evidence Synthesis - JBI Global Wiki. JBI Manual for Evidence Synthesis. 2020.

[60] Denise F. Polit CTB. Nursing research generating and assessing evidence for nursing practice 9th edition. Vol. 34, MCN: The American Journal of Maternal/Child Nursing. 2017.

[61] Higgins JPT, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, et al. Cochrane handbook for systematic reviews of interventions. Cochrane Handbook for Systematic Reviews of Interventions. 2019.

[62] Moher D, Shamseer L, Clarke M, Ghersi D, Liberati A, Petticrew M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. Rev Esp Nutr Humana and Diet. 2016; 20(2).

[63] Singh R, Patil SS, Madhu K, Thakur R, Nimbeni SB, Nayak M, et al. Evaluation of the Effectiveness of Video-based Intervention on the Knowledge of Infant Oral Health among New Mothers. Int J Clin Pediatr Dent. 2022; 15(3).

[64] WHO. WHA Global Nutrition Targets 2025: Stunting Policy Brief. Econ Hum Biol. 2020;

[65] Verma T, Gupta A. Effect of Educational Video on Maternal Nutrition, Hygiene and Sanitation Among Maternal Age Group Women: A Prospective Interventional Study from Prayagraj, Uttar Pradesh, India. J Clin DIAGNOSTIC Res. 2023;

[66] NCT04414527. Effects of Video-based Health Education on Maternal and Child Health in Ethiopia. https://clinicaltrials.gov/show/NCT04414527. 2020;

[67] Huriah T, Nurjannah, Prasetyo YB. The Effect of Online Video in Improving Maternal Nutritional Behavior and Nutritional Status of Stunted Under Five. In: Lecture Notes in Networks and Systems. 2024.

[68] UNICEF. Infant and Young Child Feeding: Programming Guide. Nutr Sect UNICEF. 2012; (May).

.

..